

**BIOMECHANICAL APPROACH  
LOW BACK PAIN  
RENO, CA  
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# CAUSES OF LOW BACK PAIN WILL MANIPULATION HELP?

- Biomechanical                      History, PE
- Inflammatory                      Labs, Imaging
- Discogenic, radicular      History, PE, imaging
- Ligament laxity                      History, PE

# BIOMECHANICAL APPROACH TO BACK PAIN

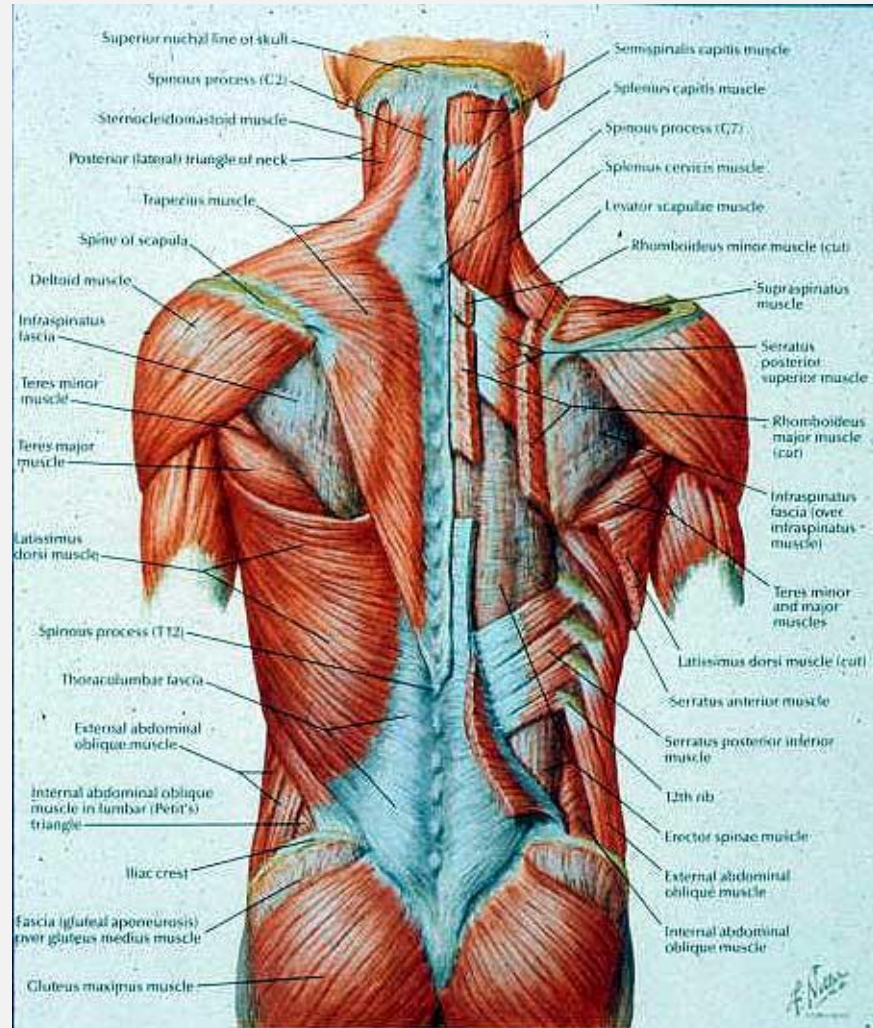
Lumbar Spine facet

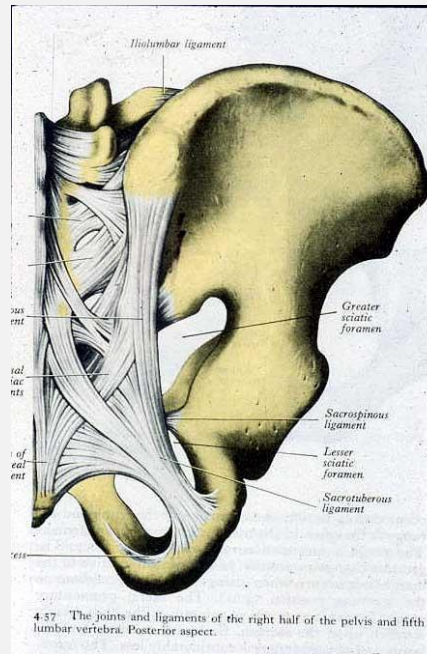
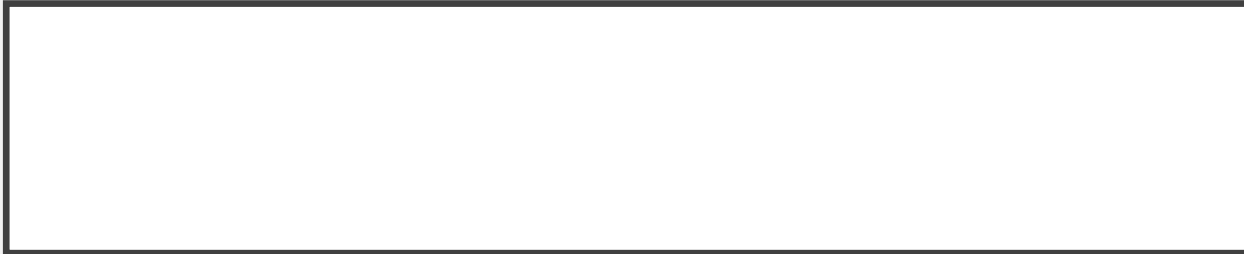
SI joint

Muscle imbalance

# IDENTIFY LANDMARKS

- Asymmetry of landmarks
- Re-evaluation useful to follow after treatment





# ILIAC CREST HEIGHTS



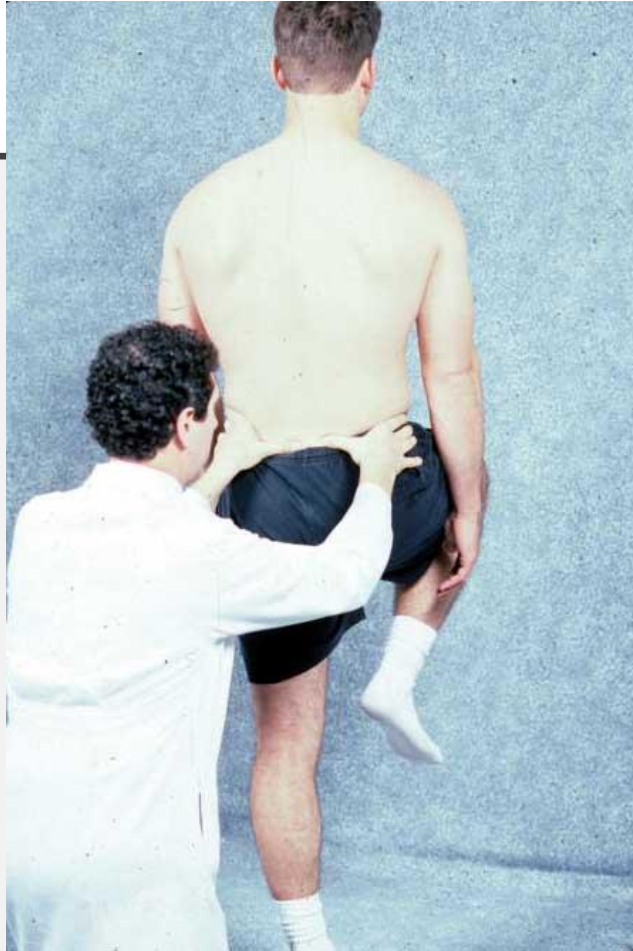
# LAND MARKS





# STANDING FLEXION TEST





## SEATED FLEXION TEST



# SUPINE ILIAC CREST HEIGHTS



# IDENTIFY PUBIC SYMPHESIS



# EVALUATE LEFT/RIGHT PUBIC HEIGHT



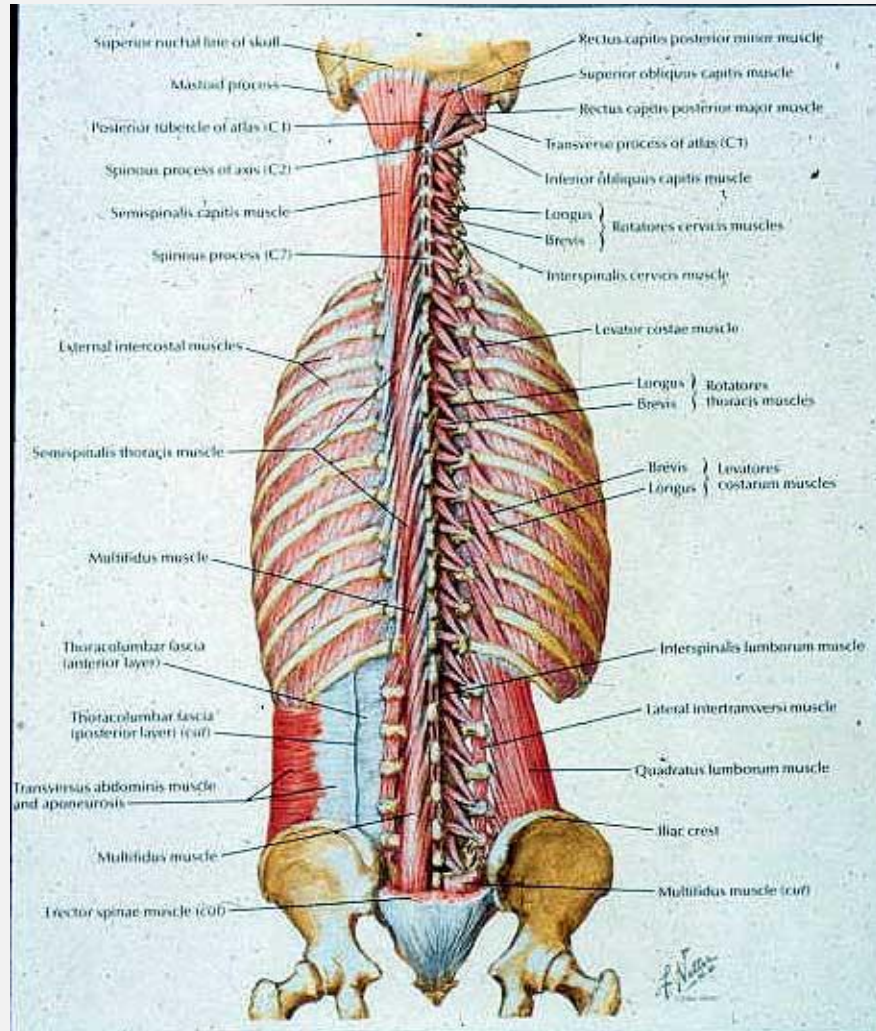
# PRONE EVALUATION FACET DYSFUNCTION

Prone evaluation

Binocular/palpation

Use extension to define position

Look/Feel for asymmetry





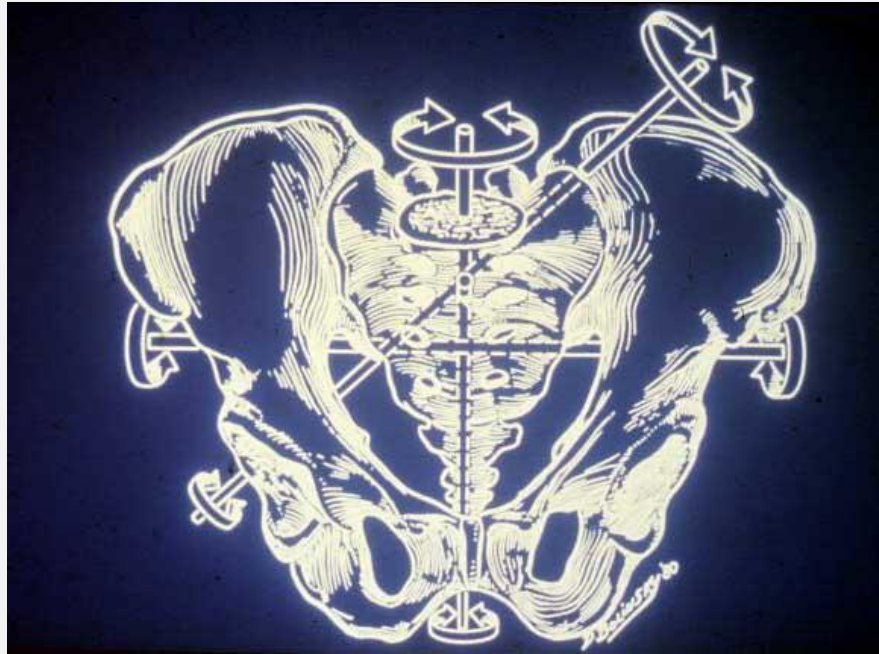
## SIDE LYING POSITION FOR TX

- 1. Post. side toward table
- 2. Position in neutral flx/ext
- 3. Position leg against table to flx/ext barrier
- 4. Have patient roll buttock post. against resistance of forearm, three reps

# TREATMENT SACRALILIAC

- COUNTERSTRAIN
  - Iliopsoas dysfunction
  - Piriformis
  - SI Joint

# MOTION POTENTIAL SACRUM



# ANTERIOR RESTRICTION TO SI

- Hip flexor hyper tonus
- The iliopsoas mechanism dysfunction



# PSOAS RELEASE

- Patient supine
- Identify area of increased tone medial to AISS
- Confirm anterior drawer test
- Lift both legs one at a time upon treater's leg
- Increase flexion and positioning of legs until tone in groin reduced
- Return slowly to supine have patient roll to prone and extend onto forearms, pelvis on table



# PRONE EVALUATION OF PIRIFORMIS

- PIRIFORMIS RANGE OF MOTION
  - KNEE FLEXED TO 90 DEGREES
  - PASSIVE INTERNAL ROTATION?



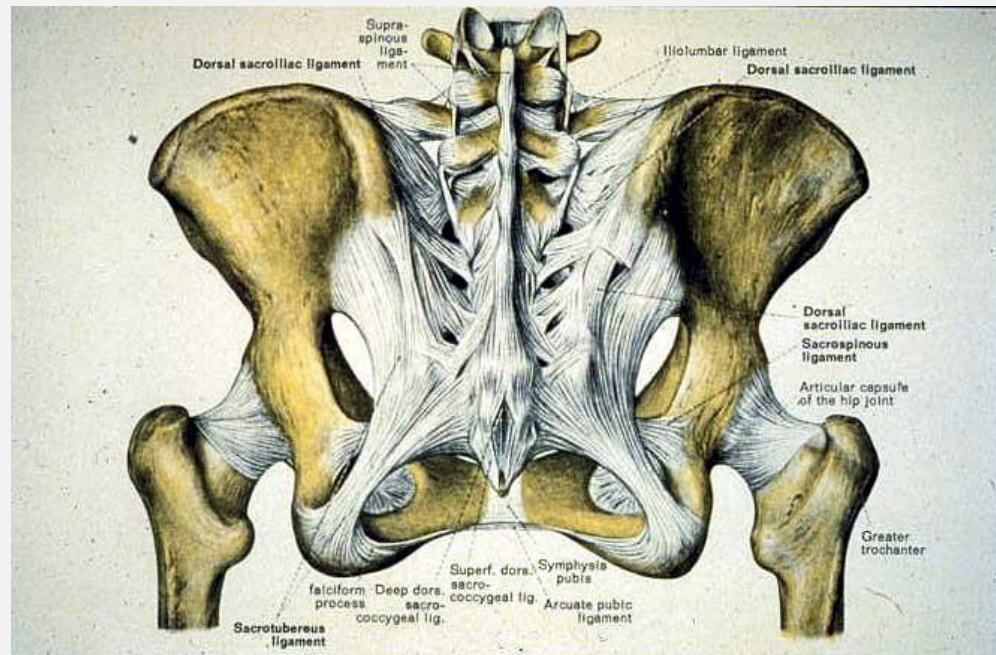
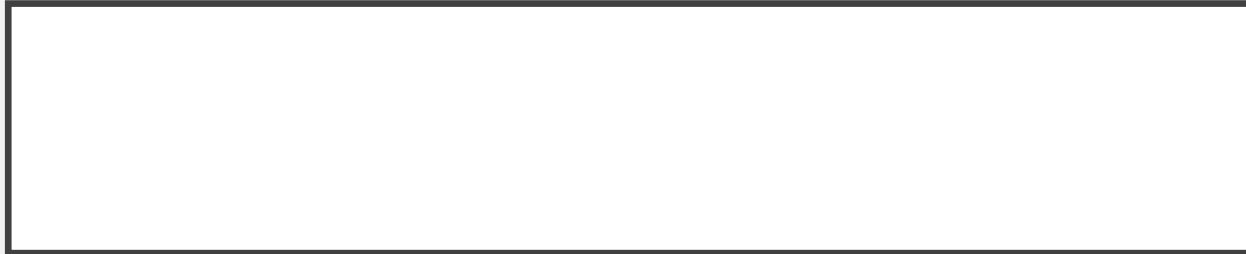


- PIRIFORMIS
  - PRONE POSITION
    - DR. SEATED
  - HIP CLOSEST TO DR. OFF THE TABLE
    - DR. SUPPORTS with LEGS
  - PALPATE PIRIFORMIS with INFERIOR HAND
  - FLEX HIP, THEN ABDUCT & EXT. ROTATE
  - MAINTAIN POSITION 90-120 SECONDS



# POSITIONAL RELEASE OF TREATMENT SACRALILIAC

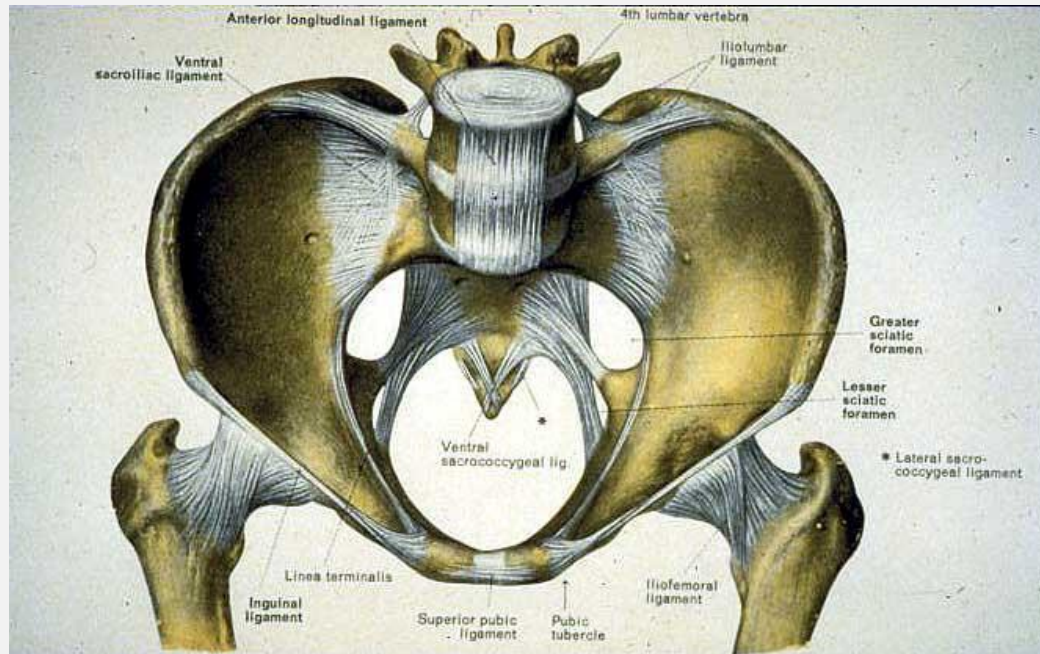
- SACRUM
  - PRONE POSITION
    - DR. WITH INFERIOR LEG ON TABLE
  - PALPATE TENDER POINT ALONG SI
  - MOVE LEG PASSIVELY INTO EXTENSION
  - ROTATE HIP INTERNALLY VS EXTERNALLY
  - MAINTAIN POSITION OF EASE FOR 90 – 120 SECONDS





- INNOMINATE UPSLIP
- SUPINE - SINGLE LEG TRACTION

# PELVIS LEVELS

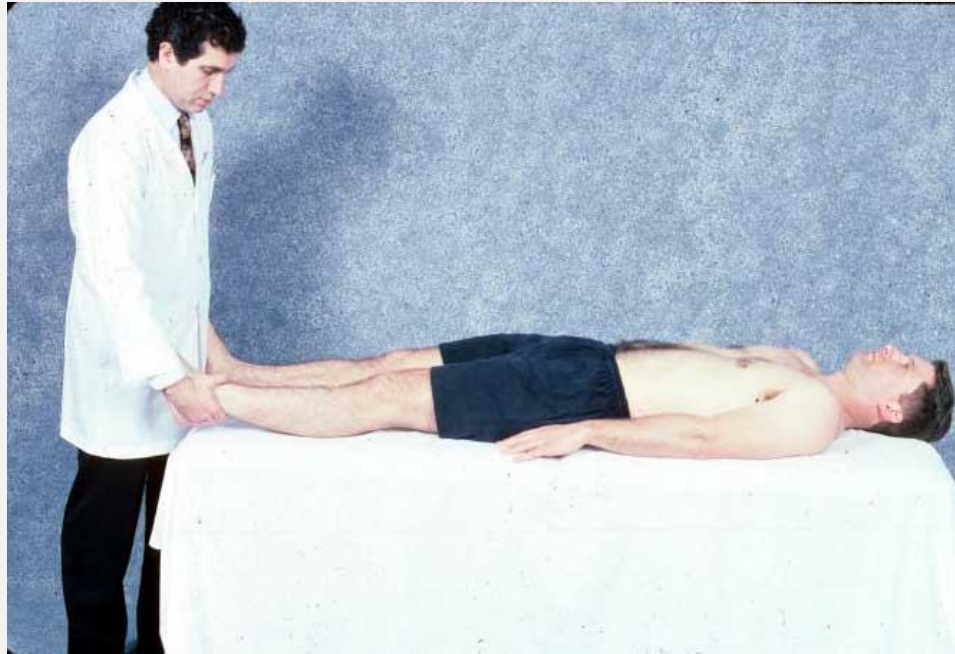




# ISOMETRIC TX LEFT INNOMINATE UPSLIP



# MEDIAL MALLEOLUS LENGTH



# INTERNAL ROTATION BEFORE TRACTION



## UP SLIP TREATMENT

- Position patient as above
- Stabilize and have patient attempt to pull leg up 3 seconds
- As patient relaxes gently but firmly pull down

# COMMON CAUSES OF BIOMECHANICAL BACK PAIN SUMMARY TREATMENT

- Lumbar Facet dysfunction
- Muscle Imbalance
- Sacroiliac Dysfunction